

**NPDES PHASE II  
ILLICIT DISCHARGE DETECTION AND ELIMINATION  
(IDDE) PLAN**



**CITY OF CROWN POINT, INDIANA**

**PERMIT # INR040054**

**JUNE 15, 2005**



## **NPDES PHASE II**

# **ILLCIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PLAN**

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**City of Crown Point, Indiana**

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**Illicit Discharge Detection and Elimination (IDDE) Plan**

This appendix contains the City of Crown Point's strategy to detect and eliminate illicit discharges to the MS4 conveyance system in accordance with the City's Stormwater Quality Management Plan (SWQMP) as required by 327 IAC 15-13 (Rule 13). This plan includes a storm sewer mapping plan and schedule, illicit discharge definitions, an outfall screening procedure, a source identification procedure, a list of active industrial facilities that discharge into the City's MS4, and a master implementation schedule.

**STORM SEWER MAP DEVELOPMENT**

As required by 327 IAC 15-13-14, the City of Crown Point must map all known stormwater outfall conveyance systems under the MS4 Operator's control with a pipe diameter of twelve (12) inches or larger and open ditches with a two (2) foot or larger bottom width within the first five (5) year permit term. The City of Crown Point defines "outfall" and "conveyance" according to the definition provided by the IDEM in 327 IAC 15-13-5 (52) and 327 IAC 15-13 (10) respectively. Outfall is defined as a point source discharge via a conveyance of storm water run-off into a water of the state. Conveyance is defined as any structural process for transferring storm water between at least two (2) points, including piping, ditches, swales, curbs, gutters, catch basins, channels, storm drains, and roadways.

The City of Crown Point, as of June 2005, has approximately 0% of their separate storm sewer system mapped via a series of as-built drawings. The City of Crown Point will map the remaining 100% of the storm sewer system by 2009. The City of Crown Point may opt to consolidate all of their storm sewer system maps into a master storm sewer map in the future if electronic data is available and available funding allows.

The City of Crown Point's stormwater outfalls that discharge into the City's receiving waters will also be mapped by 2009. The City of Crown Point defines "receiving waters" according to the definition provided by the IDEM in 327 IAC 15-13-5. Receiving waters are defined as a waterbody that receives a discharge from an outfall. The definition does not include private drains, unnamed conveyances, retention and detention basins, or constructed wetlands used as treatment.

The City will utilize GPS technology with at least five-meter accuracy to map all outfalls with a pipe diameter of twelve (12) inches or larger and open ditches with a twenty-four (24) inch or larger bottom width. The longitude and latitude coordinates for each outfall that meets the above criterion will be mapped utilizing mapping-grade GPS technology. All outfall locations will then be incorporated into the City's mapping system and database. All outfalls will be photographed and numbered for reference purposes.

The City will require developers to submit electronic copies of as-built plans for new stormwater conveyance systems and the associated outfalls that discharge into the City's designated receiving waters. These plans must be submitted in a format that compliments the City's mapping system. For consistency with Rule 13, the City will

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require developers to provide the latitude and longitude coordinates of outfalls in decimal degrees or by using, at a minimum, mapping grade GPS technology. City staff will inspect the as-builts for compliance with the City's SWQMP. Once approved, the new conveyance system and outfall locations will be incorporated into the City's mapping system and database.

### **ILLICIT DISCHARGE**

The term "illicit discharge" is defined in IAC 327 15-13-5 (28) as any discharge to an MS4 conveyance system that is not composed entirely of stormwater, except naturally occurring floatables, such as leaves or tree limbs. The definition provides examples of illicit discharges such as sanitary wastewater, septic tank effluent, car wash wastewater, oil disposal, radiator flushing disposal, laundry wastewater, roadway accident spillage, and household hazardous wastes.

Illicit discharges can be categorized as either direct or indirect. Examples of direct illicit discharges include sanitary wastewater; piping directly connected from a home to the storm sewer; materials (e.g., used motor oil) that have been dumped illegally into a storm drain catch basin; a shop floor drain that is connected to the storm sewer; or a cross-connection between the sanitary sewer and storm sewer systems. Examples of indirect illicit discharges include a damaged sanitary sewer line that is leaking into a storm sewer line or a failing septic system that is leaking into a storm sewer line or causing surface discharge into the storm sewer.

As stated in IAC 327 IAC 15-13-14 (d), the City of Crown Point's SWQMP need not address the following categories of non-storm water discharges or flows unless the MS4 operator identifies them as significant contributors of pollutants to the MS4 conveyance system. Therefore, in the interim, the City will not consider those items listed in **Table 1** as illicit discharges. However, if in the future the City determines any of these activities to be illicit discharges, the City will update its IDDE Plan accordingly.

**Table 1  
Exempt Non-stormwater Discharges**

Water Line Flushing	Irrigation Water
Landscape Irrigation	Springs
Diverted Stream Flows	Water from Crawl Space Pumps
Rising Ground Waters	Footing Drains
Uncontaminated Ground Water Infiltration	Lawn Watering
Uncontaminated Pumped Ground Water	Individual Residential Car Washing
Discharges from Potable Water Sources	Flows from Riparian Habitats and Wetlands
Foundation Drains	Dechlorinated Swimming Pool Discharges
Air Conditioning Condensation	Street Wash Water
Discharges from Firefighting Activities	

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**DRY WEATHER OUTFALL SCREENING**

As required by Rule 13, City of Crown Point will perform dry weather screening of its stormwater outfalls with a pipe diameter of twelve (12) inches or larger and open ditches with a two (2) foot or larger bottom width within the first five-year permit term. Screening activities will begin in 2005 in conjunction with the City's mapping efforts. Additional screenings may be required depending upon the results of the initial inspections. The City will also conduct outfall screening in response to community complaints, as deemed appropriate. Outfall inspectors will begin screening outfalls in those areas of the City that contain significant industrial facilities as well as those areas of the City that rely upon on-site wastewater treatment (septic systems).

The City will perform screening only during dry weather. The City defines dry weather as a period in which there has been no rainfall or no more than one-tenth (0.1) of an inch of rain within a seventy-two (72) hour period. The inspector will conduct and document physical observations at each outfall. For those outfalls proceeded by a retention pond, the inspector will conduct and document physical observations of the conveyance that leads to the pond.

In the event an outfall or pond conveyance system is discharging during dry weather and the physical observations warrant, the inspector will conduct and document a series of in-field water quality tests. If physical observations and in-field tests suggest water quality problems, the inspector may choose to collect a sample for further laboratory analyses. The outfall inspector will utilize the outfall inspection checklist in the City's ASIST (or equivalent) software. The water quality parameters to be tested are listed in **Table 2**.

**Table 2  
Water Quality Test Parameters and Uses**

<b>Water Quality Test</b>	<b>Reason for Parameter Test</b>	<b>Method</b>
Conductivity	Used as an indicator of dissolved solids.	Conductivity Meter in Field
pH	Extreme pH values (low or high) may indicate commercial or industrial flows; not useful in determining the presence of sanitary wastewater (which, like uncontaminated baseflows, tends to have a neutral pH)	pH Meter In Field
Ammonia-Nitrogen	High levels can be an indicator of the presence of sanitary wastewater.	Field Test Kit
Temperature	Sanitary wastewater and industrial cooling water can substantially influence outfall discharge temperatures. This measurement is most useful during cold weather.	Temperature Meter
Phosphorus	Used to indicate the presence of sanitary wastewater.	Field Test Kit
E. coli	Used to indicate the presence of sanitary wastewater.	Coliscan Easygel

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Water Quality Test	Reason for Parameter Test	Method
Optical Brighteners	Used to indicate the presence of laundry detergents (which often contain fabric whiteners, which cause substantial fluorescence).	Untreated cotton pad surrounded by mesh bag placed in storm drain outlet, manhole, or catch basin; left for 5-7 days. Then, cotton pad placed under UV lamp.

**SOURCE IDENTIFICATION**

The City of Crown Point will attempt to determine the source of all dry weather discharges. However, recognizing that most dry weather discharges will not be constant, the City understands that identifying the source of 100% of all illicit discharges is unlikely.

For each dry weather discharge suspected of being illicit, the inspector, utilizing a map of the storm sewer system, will follow the drainage ditch or identify the most up-pipe manhole with a junction in an attempt to identify the general location from which the discharge originates. The inspector may opt to collect additional field and laboratory samples as he or she make their way upstream or up-pipe in order to compare the outfall sample results with the in-line results in hope of identifying similarities between the sites. If, from following the drainage ditch or inspecting the manhole, the inspector can determine the direction from which the discharge originates, he or she will then continue upstream or to the next up-pipe manhole until he or she can pinpoint the source or the general vicinity from where the discharge is originating. If the inspector cannot identify the specific source through visual observation, a dye test, smoke test or video inspection will be necessary to determine the source of the discharge.

**Dye Testing**

If an inspector is able to narrow down the likely source of a discharge to a reasonable number of homes or businesses, the City will perform a dye test one building at a time. Non-toxic dye will be flushed into toilets, sinks and other non-stormwater sources. Storm sewer outfalls will be observed to check for presence of the dye. Prior to testing, the City will contact building owners and occupants to obtain access to the buildings. The IDEM's Office of Water Quality will also be notified so they will be prepared to respond to citizen calls and/or questions. Two or more City staff will be equipped with two-way radios with one person inside the suspected building and the others stationed at appropriate manholes and/or outfalls. The inside person will drop dye into a plumbing fixture and run a sufficient amount of water to move the dye through the plumbing system. The inside person will then radio the outside crew so they can watch for the dye and record the presence or absence of dye.

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### *Smoke Testing*

If dye tests prove unsuccessful, the City may opt to conduct smoke testing. A smoke test involves injecting non-toxic smoke into storm sewer lines and then noting the emergence of smoke from sanitary sewer vents in illegally connected buildings or from cracks and leaks in the storm sewer lines. The injection will be done by placing a smoke bomb in the storm sewer manhole below ground and forcing air in after it. City staff will be stationed at points of suspected illegal connections or cracks/leaks, noting any escape of smoke. Prior to performing tests, the City will inform building owners and occupants in the area, as well as, police and fire departments.

### *Video Inspection*

Video inspections involve filming the storm sewer system and tracking a discharge to its source. Due to the expertise and technology required to conduct such investigations, the cost associated can be high. In addition, the firms that provide such services may not be readily available to conduct a video inspection increasing the chances that the discharge may cease before it can be thoroughly investigated. Therefore, the City of Crown Point will only rely upon video inspections if smoke testing and/or dye testing prove insufficient in the identification of a discharge.

### **IDENTIFICATION OF ACTIVE INDUSTRIAL FACILITIES IN THE MS4 AREA**

All active industrial facilities located within the City of Crown Point's MS4 area that discharge into a City MS4 conveyance are listed in **Table 3**. This information will be updated annually by the City to ensure the list is accurate and current. The table will assist City personnel with identifying potential pollutants of concern as well as the potential sources of illicit discharges.

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**Table 3  
Active Industrial Facilities in the MS4 Area**

Facility Name	Mailing Address	Mailing City	Zip Code	SIC Code	Telephone Number	Locational Address	Locational City
4 Signs & Service Inc	1520 E North St	Crown Point	46307	3993	219-662-9882	1520 E North St	Crown Point
A & B Manufacturing Inc	1019 E Summit St	Crown Point	46307	3549	219-663-4540	1019 E Summit St	Crown Point
Crown Brick & Supply Inc	820 Thomas St	Crown Point	46307	3271	219-663-7880	820 Thomas St	Crown Point
Crown Cabinet & Counter Top	500 Sheridan St	Crown Point	46307	2541	219-663-2725	500 Sheridan St	Crown Point
Crown Mtl Fbricators Erectors	PO Box 179	Crown Point	46307	3444	219-662-6874	1031 E Summit St	Crown Point
Crown Point Shopping News	PO Box 419	Crown Point	46307	2711	219-663-5330	111 Hack Ct	Crown Point
Crown Point Star	PO Box 419	Crown Point	46307	2711	219-663-4212	112 W Clark St	Crown Point
Cuneys Printing Co	306 E Goldsboro St	Crown Point	46307	2752	219-663-1790	306 E Goldsboro St	Crown Point
Dawn Food Products Inc	1300 E Summit St	Crown Point	46307	2051	219-662-3296	1300 E Summit St	Crown Point
Design Door Inc	707 N Indiana Ave	Crown Point	46307	3999	219-662-2866	707 N Indiana Ave	Crown Point
Eagle Creek Machining Co	1305 Erie Ct B	Crown Point	46307	3599	219-661-1809	1305 Erie Ct B	Crown Point
East Chicago Machine Tool Corp	980 Crown Ct	Crown Point	46307	3523	219-663-4525	980 Crown Ct	Crown Point
Heartland Industries Inc De	1122 N Main St	Crown Point	46307	2452	219-663-9057	1122 N Main St	Crown Point
Helix Hydraulics Inc	1503 N Main St	Crown Point	46307	3593	219-663-0996	1503 N Main St	Crown Point
Horizon Graphic Apparel Inc	521 N Court St	Crown Point	46307	2396	219-663-4427	521 N Court St	Crown Point
Imco Industrial Machine Corp	PO Box 943	Crown Point	46307	3599	219-663-6100	1201 Merrillville Rd	Crown Point
Ink Spot Printing	1027 E Summit St	Crown Point	46307	2752	219-663-0722	1027 E Summit St	Crown Point
Kwik Kopy Printing	1180 N Main St	Crown Point	46307	2752	219-663-7799	1180 N Main St	Crown Point
Mc Garr Pro Auto Service Inc	1670 E North St	Crown Point	46307	3599	219-663-0045	1670 E North St	Crown Point



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Facility Name	Mailing Address	Mailing City	Zip Code	SIC Code	Telephone Number	Locational Address	Locational City
Midwest Screen Print	415 N Grant St	Crown Point	46307	2396	219-663-5158	415 N Grant St	Crown Point
Narkum Enterprises	35 Walnut Pkwy	Crown Point	46307	3599	219-663-8732	35 Walnut Pkwy	Crown Point
Peer Cabinets Inc	PO Box 358	Crown Point	46307	2541	219-769-1225	1001 E Summit St	Crown Point
Ploog Engineering Co Inc	814 N Indiana Ave	Crown Point	46307	3599	219-663-2854	814 N Indiana Ave	Crown Point
Point Medical Corp	891 E Summit St	Crown Point	46307	3842	219-663-1775	871 E Summit St	Crown Point
Race Engineering	725 E Goldsboro St	Crown Point	46307	3711	219-661-8904	725 E Goldsboro St	Crown Point
Rohder Machine & Tool Inc	1023 E Summit St	Crown Point	46307	3599	219-663-3697	1023 E Summit St	Crown Point
Superior Sign Co Inc	2313 Main St	Highland	46322	3993	219-924-3330	2313 Main St	Highland
Trump Iron Works Inc	PO Box 260	Crown Point	46307	3441	219-663-6951	1201 E Summit St	Crown Point
Vesuvius USA	816 E Porter St	Crown Point	46307	3297	219-663-0702	816 E Porter St	Crown Point
Wilson Iron Works Inc	PO Box 704	Crown Point	46307	3441	219-663-7900	1150 E Summit St	Crown Point
Woodcare Co Inc	430 Fairview Ave	Crown Point	46307	2851	219-663-9185	430 Fairview Ave	Crown Point

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### **ELIMINATING ILLICIT DISCHARGES**

The goal of City of Crown Point's IDDE Plan is to address 100% of the illicit discharges identified. The City understands, however, that for a variety of reasons, immediate elimination of 100% of identified discharges is not likely due to the political and socioeconomic circumstances that can play a role in such issues. The City will attempt to enforce and eliminate all identified illicit discharges in accordance with the City's Illicit Discharge Elimination Ordinance.

### **Illicit Discharge Detection and Elimination Reporting**

The inspectors responsible for outfall screening and identifying illicit discharges will maintain a database that documents all activities associated with the City's IDDE Plan ranging from mapping, outfall screening, source identification and enforcement. All activities associated with this plan will be documented and submitted to the IDEM with the City's Rule 13 Annual Reports.

### **IDDE Education and Outreach**

The City will rely on NIRPC to educate public employees, businesses, and the general public within the MS4 area about the hazards associated with illicit discharges and the improper disposal of waste. NIRPC will provide relevant education through brochures, newsletters, website, newspaper articles, etc. as their Public Education and Outreach and Public Participation Program evolves.

### **NIRPC Public Complaint ("Report-A-Polluter") Program**

By November 2006, NIRPC will implement a program to field complaints from the public on illegal dumping, illicit discharges, poor erosion control, and other activities that negatively impact stormwater quality. Citizens will have the opportunity to submit such complaints by filling out a form through both e-mail and in person at the NIRPC office. Then NIRPC will contact the City if further follow up is needed. Fielding public complaints in this manner will improve public involvement and will serve as an education tool to inform the public about hazards of illicit discharges and illegal dumping.

The associated NIRPC e-mail address and in person forms will be advertised on the City's web site and through stormwater brochures to be developed as part of the City's Stormwater Program. NIRPC will document the number of brochures distributed, use a web counter to track the number of times the web page is viewed, the number of complaints received, and document follow up on citizen reports, corrections taken, etc. The City will use their ASIST (or equivalent) software to track citizen's complaints received by NIRPC and will identify the details of each complaint and the subsequent actions taken by the City as a result. All of this information will be compiled and included in the City's Rule 13 Annual Reports.

### **IDDE Plan Review and Update**

Every five (5) years, beginning in 2009, the City of Crown Point IDDE Plan will be reviewed for adequacy and accuracy and updated as necessary. The City will attempt to include relevant City personnel in this process.

(will use ASIST (or equivalent) software checklist)